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Chief, Engineering Staff

13 January 1959

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THRU : Chief, Telecommunications, Training and  
Techniques Staff

Chief, [REDACTED]

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Suggested Modification to the [REDACTED] Receive Data Terminal -  
Submitted by [REDACTED]

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REF : TASK III, [REDACTED] Schematic of Control Drawer, Receive Data, Drw #322431

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1. It has been noted that the Soroban Reperforator motor can be started by loss of -100 volts in the terminal. Due to the high cost of the Soroban and difficulty in obtaining replacements and repairs, it would seem necessary to take all precautions to prevent excessive running and damage to the unit. With the Receive Data terminal in the AUTO or SEMI-AUTO position, the Receive Data terminal supposedly can and will be left unattended. At such times the Soroban motors should not be operating. However, if the -100 volt supply should blow a fuse or in some other way lose power, then the Soroban motor will automatically start and continue to operate until manually stopped.

2. The reason for this condition is due to the time lag from the loss of -100 until the loss of the other power supply voltages. The -100 voltage operates relay K8201, which, through its contacts, completed the circuits for the /260 and /100 to all chassis. In time sequence of operation this means that -100 is lost first and some time later, depending on the residual holding time of relay K8201, the /260 and /100 are lost.

3. The Transmission Start Relay tube V8208 (see attached simplified schematic) uses -100 for bias and plate voltage supply /260. As a result of losing the bias, the tube will conduct and operate Start Relay K820 which in turn energizes Secondary Relay K8209 and Reperforator Motor Relay K8206 and starts the Reperforator Motor. This condition on V8208 is short-lived but K8209 and K8206 have already operated and will remain energized as long as +28 volts is available or until the Reperforator STOP button is manually pressed.

4. A suggested possible cure for this condition would require a slight wiring modification and utilizing available contacts on K8201. As shown on the attached schematic, the /28 volts supply for relay K8209 and K8206 would be connected through relay K8201 contacts Nos. 6 and 7. With this modification, when-

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ever -100 is lost, it will also open the source of 28 volts for re-  
lays K8206 and K8209 and therefore prevent operation of the Reper-  
forator Motor.

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**Enclosure:**  
Schematic

**Distribution:**  
Orig. and 3 - Addressee

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Note; Modification shown in RED

